

Marble (J. O.)

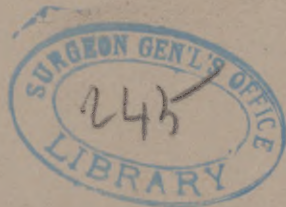
*With the Compliments of the Writer.*

# CREMATION

IN ITS

## SANITARY ASPECTS.

THE TORCH *VERSUS* THE SPADE.



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WITH APPENDIX.

“AY, BUT TO DIE, AND GO WE KNOW NOT WHERE,  
TO LIE IN COLD OBSTRUCTION, AND TO ROT,  
THIS SENSIBLE WARM MOTION TO BECOME  
A KNEADED CLOD—

\* \* \* \* \* 'TIS TOO HORRIBLE!”

*“Measure for Measure,” Act III., Scene I.*





# CREMATION

IN ITS

## SANITARY ASPECTS.

READ AT THE ANNUAL MEETING  
OF THE  
MASSACHUSETTS MEDICAL SOCIETY,  
IN BOSTON, JUNE 10, 1885,

BY  
JOHN O. MARBLE, M.D.  
*Secretary of the Cremation Society of Worcester.*



*"Ashes to Ashes."*



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## CREMATION IN ITS SANITARY ASPECTS.

### THE TORCH VERSUS THE SPADE.

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*"Vermibus erepti puro consumimur igni."*

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Wise sanitation is now universally regarded as essential to the public welfare. The health and safety of the people is believed to depend quite as much upon preventive medicine as upon curative. The subject of this paper is, *par excellence*, one of preventive medicine. Advances in pathology and therapeutics have no more than kept pace during the past ten years with progress in sanitation, equally important and efficacious in the promotion of health and the saving of life.

The proper method of disposal of the dead is, I believe, one of the greatest, if indeed not the greatest, sanitary problems of the day.

Mr. Eassie, Hon. Secretary of the Cremation Society of England, to whom I am indebted for many facts relating to this subject, said at a recent sanitary council, "I am in a position to guarantee facts, and having a lively acquaintance with the history of other sanitary reforms, I think it my duty to declare my opinion that the problem what to do with the dead, transcends in importance every other sanitary question."

The limited time at my disposal to-day forbids me to present to you more than a skeleton of this grave subject.

I shall, however, endeavor to demonstrate the dangers to the living, from the prevalent custom of earth burial,

and the hygienic advantages of cremation over the time-honored, but always and everywhere unsafe practice.

It is an unprofitable, as well as an impossible, task to trace back to their origin either cremation or earth burial. Inhumation had certainly not the most honest origin if, as we are told, Cain buried his brother to conceal his crime. It is a disputed point when urn-burial was first adopted even by the Greeks. The Iliad account of the funeral rites of Patroclus and Hector is, I believe, the first mention of incineration in Greek literature. Rome in her earliest history, according to Pliny, practised earth burial, yet at that early period cremation was also a custom as stated by Ovid. During the Trojan war cremation appears to have been adopted that the remains of dead heroes might be restored to their native land. We are told that Hercules burnt the body of Argius, because thus only could he return the remains of the son to his sorrowing father.

Homer causes his dying hero, fainting at the approach of death, to say :

“Ah, leave me not for Grecian dogs to tear!  
The common rites of sepulture bestow  
To soothe a father's and a mother's woe:  
Let their large gifts procure an urn at least  
And Hector's ashes in his country rest.”

Neither is it certainly known whether incineration was originally adopted on sanitary grounds, yet it appears probable from the fact that it was generally resorted to after great battles. It is an undisputed fact, however, that in the fourth century, after Christianity became established, cremation fell into disuse, inhumation becoming thereafter the more general custom throughout Europe. Whether this was due to the fact that Christian people desired thus to distinguish themselves from the so-called heathen or pagan nations, as is claimed, or to the absurd idea that burning the body would interfere with its final resurrection, concerns us little at the present day.



The battle of the torch and spade has been waged in earnest in modern times, since the year 1873 when Prof. Brunetti, at the International Exposition in Vienna, exhibited his samples of the results of a scientific cremation. Previous to that date, skirmishers had appeared at intervals with more or less influence ever since good old Sir Thos. Browne, more than two hundred years ago, wrote his excellent paper on Hydriotaphia or Urn Burial. But during the past ten years an immense number of papers upon the subject have been published in every country of Europe, and more-recently in this country. With few exceptions the practice of earth burial has received the condemnation of science, the world over, and in its stead cremation has been everywhere recommended as a safe, rational, and unobjectionable custom, one which would annihilate powerful sources of disease, and greatly promote the public health.

The final disposition of the dead concerns only survivors, and its importance to posterity cannot be overestimated. When the population was scarce perhaps it mattered less, but with the increasing tendency of people to congregate, the question before us now increases in importance *pari passu* with increase of population.

The question is, what ought to be done with the dead by reasoning and intelligent men in the 19th century, with their present knowledge of sanitary science. Shall we continue to bury the corpse in the earth, blindly believing that catering to sentiment will protect us from being perhaps fatally poisoned by gases rising through the soil to pollute the air we breathe, or disseminated through it to contaminate the water we drink, or shall we, like reasonable beings, after proper funeral ceremonies over the body of our dearest friend, allow it to be reduced to ashes in an hour, and thus to leave the earth no worse for having died, if possibly for having lived, upon it?

From the moment that the heart ceases to beat, and the vital spark leaves an organized living body, as well of man as of the lowest animal, putrefaction begins its slow and loathsome process. It gradually passes through the successive phases of decomposition too horrible to witness or even to describe, except when necessary, until all the constituent elements are set free by a tedious and dangerous process of combustion. This process may last according to the nature of the soil for ten, twenty, or a hundred years. While this change is going on, every particle of matter around the festering body is being saturated and infected with germs of disease and death. In case death was caused by such disease as yellow fever, small pox, or cholera, these germs are not destroyed by inhumation, as they certainly are by incineration, but are planted as it were, to sprout again with renewed virulence whenever the soil is afterward disturbed.

So long as we live the vital forces of nature are in operation. Immediately after death, however, the retrograde metamorphosis begins, which will surely render the body, perhaps now beautiful in death, a thing of horrible aversion, and unwilling disgust.

The process of decomposition, decay and putrescence goes on with varying degrees of rapidity, according to season, temperature and moisture, till it becomes a menace to the living, however reluctantly we may admit the painful fact; and the disagreeableness of a fact is no evidence that it is not true or that we can afford to ignore it.

In a paper read by Mr. Darwin before the London Geological Society, on the "formation of mould," that eminent scientist proved that in many fields every particle of the superficial layer of earth has passed through the intestines of worms. By observations in different fields he proved that in one case a depth of more than three inches of this worm mould had been accumulated in fifteen years, and in

another, that earth worms had covered a bed of marl with their mould in eighty years to an average depth of thirteen inches. This is curiously confirmatory, says Sir Spencer Wells, of the recent conclusions of Pasteur, who, in his researches into the etiology of charbon, shows that this earth mould, brought up by worms, positively contains the specific germs which propagate the disease, and that these same organisms are found in the intestines of the worms. These parasitic organisms will resist the putrefactive process many years, and lie in a state of latent life like any flower seed or grain of corn, ready to germinate and propagate the disease.

The practical inference in favor of cremation is so evident that the most sentimental objector, however blinded by prejudice, cannot fail to see it.

It now appears well established that zymotic diseases are propagated by germs; and if the much abused Koch yet succeeds in proving the "*comma bacillus*" to be the *fons et origo* of cholera, there would seem to be hope of bringing that dreaded scourge to a period.

By burying in the ground a body dead of any zymotic disease, we are planting for our descendants, seed, sure, sooner or later, to bring forth a horrible crop of pestilence and death! This can no longer be doubted, or the fact ignored, for it is incontrovertibly established on the concurrent testimony of the highest scientific authority.

Dr. Freire, of Rio de Janeiro, while investigating the cause of yellow fever, found that the soil of cemeteries wherein the victims of that disease were buried, was alive with microbian organisms identical with those found in the vomit and blood of patients who had died of it in the hospital. He took samples of the earth, one foot below the surface, over the remains of a victim of yellow fever, and found them swarming with the characteristic germs. He is therefore justified in characterizing the cemeteries as the



nurseries of yellow fever, the perennial foci of that dreaded disease.

Cholera already threatens us. In case it comes, and victims, few or many, die, shall we, in view of what has just been shown, plant their festering bodies in the earth, to come forth again in myriad forms, to breed additional pestilence, if possibly not for us, yet surely for our descendants, if the grave should ever be disturbed? There can be but one answer.

As yet there is but one known, sure, and never failing germicide—fire. No disease germ, it is safe to say, has ever passed through the crematory fires and survived to propagate its species.

History literally teems with accounts of epidemics caused by animal decomposition. The hygienic dangers of inhumation, *per se*, were recognized by the ancients, and repeatedly strenuous efforts were made to abolish the custom. Just as to-day a few oppose cremation, so the heathen were disputing a like question before the advent of Christianity. Why then call it "Christian burial" to permit bodies to putrefy in the darksome grave, and so possibly, nay probably, at some future day to generate "the pestilence that walketh in darkness and the destruction that wasteth at noonday."

The cause of the death of the renowned Hannibal is familiar to readers of history. He laid siege to a city of Sicily, and wishing to build a wall of defence, tore down the old tombs to obtain material. The disturbing of so many dead bodies caused a terrible pestilence, which destroyed not only vast numbers of the Carthagenians but Hannibal himself also.

The sudden death of the vandals who broke open the coffin of Francis I., in the time of the French Revolution, to rob it of its treasures, is another familiar instance in proof of the lethal effect of the gases generated by corpses, and of their almost indefinite persistence.

The terrible scourge of cholera in London in 1854 was believed to have had its origin in the upturning of the earth in which the plague-stricken victims of the year 1665 had been buried; and the Report of the London Board of Health for 1849 states that the cholera was specially prevalent and fatal in the vicinity of grave-yards. Again, it is an established fact that the plague broke out afresh in Modena, Italy, in 1828, in consequence of excavations of the earth, where three hundred years before the victims of that disease had been buried. Do we wonder that the sanitarians of Italy are enthusiastic advocates of cremation?

But it has been claimed that instances of disease caused by water and air vitiated by graves, are mostly of ancient origin, that they occurred before intramural interments were generally prohibited. They do still occur, however, though less frequently, thanks to the efforts of sanitarians, as can readily be shown. Dr. Santa vouches for the fact that a severe epidemic of fever was caused, but a few years ago, by drinking water poisoned by grave-yard soakings in the villages of Bellita and Rotendella, Italy. More recently even the Monumental Cemetery at Milan was proved to have been the cause of severe illness in its vicinity, the wells being the channels of infection. The so-called Roman fever has usually been attributed to malaria from the Pontine marshes. No doubt they are dangerous enough and produce their share of miasm, but now come Sir Lyon Playfair and other sanitarians contending, and reasonably, that a more probable, or at least an additional cause of the peculiar fever of the Eternal City exists in its soil and that of its environs, saturated as it has been for centuries with the decaying remains of its millions of buried dead.

In our own country, the Atlanta Medical Journal recently reported the case of two young ladies, who drank water from a spring situated on a hillside near an old grave-yard, one of whom died soon after of diarrhœa and pyæmia, and



the other of typhoid fever. Cattle also drank the water and were made sick. The fact is vouched for, that whenever cholera or yellow fever has visited New York city, it has prevailed especially in the vicinity of Trinity church-yard; and two years ago this spring, that same neighborhood suffered severely from typhoid fever when it was not prevalent in other parts of the city. Washington Square, New York city, was for a long time used as a Potter's Field. In 1806 it was converted into a public square, and for years after, as the oldest physicians testify, it was almost impossible to rear children on the ground floors of houses in that vicinity.

When, a few years ago, the old disused cemetery in Mechanic St., Worcester, was removed, hundreds of loads of the superfluous gravel were spread broadcast upon our streets. I feared that disease might result and was on the watch for it. I had many cases of severe sore throat, diarrhœa and fever in that locality, which I believe were caused by poisonous emanations from that saturated soil. That the city escaped an epidemic of some pestilential disease was no doubt due to the fact that probably no one there interred had died of cholera, yellow fever or small-pox. My fears were considered unnecessary by my professional brethren at that time, but I could not reply with proof, for I was not then aware, as I now am, that a severe epidemic of fever in 1843 nearly decimated a town in England from precisely such a cause.

The monstrous delusion that the mere contact of the corpse with fresh earth renders it innocuous and suffices for safe disinfection, is dissipated by overwhelming evidence. I distinctly remember my boyish scruples concerning the water of a well situated not fifty yards from graves in the church-yard adjoining my father's garden. This old "God's acre" I have a hundred times passed, in my timid boyhood, in the shades of night, with palpitating heart, and at a pace

rivalled only by that of Tam O'Shanter's 'steed from witch-haunted Kirk Alloway to the "keystone" of the "Brig o' Doon." My father overcame my scruples concerning the water by stating the belief then held, that the earth was a purifier and a safe depurator, and that no harm could come to that well, thirty feet deep, the pride and unfailing source of supply of the neighborhood. Yet I that same autumn suffered a severe and nearly fatal attack of typhoid fever, and another member of the family was similarly affected a year later. The fever occurred when the well was low, and I have no doubt, in the light of present knowledge of such dangers, that, repulsive as is the thought, I drank water filtered through the bones of my revered ancestors buried there, and that the polluted water caused that illness. To those who criticise the advocates of cremation for quoting ancient examples only, of harm from graves, this instance will appear sufficiently recent and intimate.

Permit me here to quote the opinions of a few men who have expressed themselves emphatically upon the evils of inhumation, and whose deliberate judgment carries conviction with it.

Dr. Parkes, one of the highest authorities in the world on hygiene subjects, declares that it is a matter of notoriety that the vicinity of graveyards is unhealthy.

Sir Henry Thompson writes, "No dead body can be left in the ground without poisoning the earth, the air and the water above and about it. Within a few weeks the decomposing corpse is pervaded with bacteria or microbial organisms, which together with the gases generated in the putrefactive process are struggling with each other in foul *mêlée*, each seeking to escape from its loathsome imprisonment."

Dr. Curtis, of Chicago, writing upon the evils of earth burial says, "that the dead do kill the living is only too true, and that cholera and the whole list of zymetic and infectious diseases are transmitted through the contamination of

air and water supplies, is no more difficult of demonstration than it is to prove the ability of sewer gas or sewage water to propagate disease. The proximity of burial grounds to disease-infected localities is not to be explained on the theory of coincidence."

Mr. Cooper, in his work on "The Causes of Epidemics," states that the digging up of the so-called plague burying grounds in Derbyshire, England, caused an immediate outbreak of that disease, and he argues strongly that burial in the earth is always and everywhere dangerous to the living.

The French Academy of Medicine reports that the putrid emanations from Père la Chaise, Montmartre, and Montparnasse, have caused frightful diseases of the throat, fevers, and diarrhœa, to which numbers fall victims every year, and that these fatal diseases have been traced to vitiated air and water, and rage with greatest violence near cemeteries.

So great a thinker as the Earl of Beaconsfield, whose knowledge was confined to no one science, and who was ahead of his times in more respects than one, said in the House of Lords, in 1880, "what is called God's acre is not adapted to the times in which we live nor to the spirit of the age. The grave-yard is an institution very prejudicial to public health, and the health of the people ought to be one of the first considerations of a statesman. The time has arrived when a safer method of disposal of the dead should be instituted." Jew or Christian, the sentiment is creditable to the memory of Disraeli.

The distinguished bishop of Manchester, referring to the consecration of a cemetery, said in the same year, "I feel convinced that very soon we shall have to face the problem how to bury our dead out of sight with safety to the living. I hold that the earth was made for the living, not for the dead. No intelligent faith can suppose that any Christian doctrine can be affected by the manner in which, or the time in which, this mortal body crumbles into dust and sees cor-

ruption. The question must be met, for cemeteries are becoming not only a difficulty and a great expense but an actual danger."

The general consensus of opinion of sanitarians the world over, adverse to earth burial, is the surest proof that the practice is dangerous to survivors. It would almost seem that Shakspeare was inspired by a prophetic sanitary wisdom when he referred to

"The very witching time of night,  
When graveyards yawn, and hell itself breathes out  
Contagion on this world."

All the horrible results and disgusting details of poisoning from the buried dead are admitted, but it is claimed by some that they occurred in the days of intra-mural interments, and that abolishing that custom terminated the danger. Nothing could be more false. Removing cemeteries to a distance only postpones the evil, and, while safer for us, entails upon those who come after us a legacy of pollution, disease germs and death, with which they will justly reproach us, and which we ought to be wise enough to prevent while we have the power. The very men who claim that earth burial is safe and that graveyards are harmless when removed to a distance, go on to recommend different methods of averting the very dangers which they claim do not exist. One advises planting groves of trees to absorb the deleterious gases, apparently aware that it is only the absorbent power of vegetation which renders the air over cemeteries at all tolerable. Another would leave them bare that the winds of heaven may sweep over them with purifying influence. Have they forgotten that in most growing cities and towns the present suburbs will soon be built over, and that the sanitary precautions recommended in connection with burial in the earth are seldom, if ever, fully taken? Such inconsistency is inexcusable, since the weight of evidence, especially during the past ten years, shows that inhumation of dead bodies is always and everywhere peril-

ous. To postpone or ignore the danger (excusable, perhaps, in bachelors), is unworthy of fathers of children, for the fact that the future will some day be the present makes it the object of solicitude to all unselfish humanitarians to-day.

The greatest evil result of inhumation of the dead is undoubtedly the contamination of water.

"The rivers die into offensive pools,  
And, charged with putrefaction, breathe a gross  
And mortal nuisance into all the air."

It was, I believe, the oft-quoted Hippocrates who first formulated the requisites of health, as "pure water, pure air, and a pure soil"; and in our day the most eminent physicians maintain that polluted drinking water is by far the most frequent cause of enteric fever and other zymotic diseases; and when we consider that three-fourths of the human body and nearly as great a proportion of all our daily food consists of water, the importance of its purity is at once realized. Yet but a few years ago when Woodworth sang,

"How sweet from the *green mossy* brim to receive it,  
The *moss-covered* bucket which hung in the well,"

the poetry was applauded, and the danger unseen. Temperance reformers complain of slow progress against the ravages of alcohol. Water has also its victims, I had almost said as many, and a part of their energies might profitably be directed to a crusade against its contamination by cess-pools, drains, and cemeteries. Drains as well as drams are dangerous.

A well-recognized and, as I believe, not uncommon cause of typhoid fever is impure milk. The water for dairies appears to be of more importance than the supply of food (and I have no reference to the cupidity of the average milkman). I have personal knowledge of cases of enteric fever believed to have had their origin in milk produced by cows pastured near an old cemetery, the water which they



drank being supplied by springs very near it. Thus even milk may not always be a safe beverage. The fabled founders of Rome have been considered wise in their choice of a sanitary source of supply ; but even that galactophorous wolf may possibly not always have drunk from the same babbling stream with the storied lamb, but from some Roman pool of doubtful purity.

In view of what has already been shown, I venture to assert that earth burial is only an evil, and that continually. No spot of ground accessible and convenient for present use as a cemetery can be found, which will not, in the future, be liable to be needed and used as the residence of man ; and the indefinite persistence of graveyard pollution has been, I hope, abundantly proved.

Prof. Pumpilly has ascertained by recent experiments that sandy soil interposes absolutely no barrier between wells and the bacterial infection from cemeteries and cesspools lying even at a considerable distance from them. Indeed he claims further, that "dry gravel and coarse sand do not prevent the entrance into houses built upon them, of those micro-organisms which swarm in the ground air, around leaky cesspools, near graveyards, and in the filthy made land of cities." Not even the filters employed in the laboratories have been quite effectual in preventing the passage of those many named microbes which are now recognized as the cause of the transmission of disease.

So well recognized is the fact of the danger of the poisoning of water by graves that laws exist in France prohibiting the opening of wells within one hundred yards of any place of burial ; and in some of the German states it is forbidden by law to dig wells nearer than three hundred yards to any grave ; and at a hygienic council, held some time ago in Brussels, it was decided that the safe protective distance should not be less than four hundred yards. In our country I am not aware that any such laws exist. In Philadelphia,

three cemeteries estimated to contain 80,000 graves are so situated as to be liable to drain into the Schuylkill, above Fairmount dam, whence is drawn the city's water supply. The "Centennial diarrhoea," so called, had a cause other than exhaustion from too much sight-seeing. Many eminent sanitarians now believe that cause was graveyard pollution of water, drunk by strangers unaccustomed to it.

However extravagant or exaggerated the statement may appear to persons who are wedded to old customs, it is asserted, without fear of successful contradiction, that the poisoning of earth, air and water by corpses placed in the ground to putrefy and decay is now as undeniably proven, and upon as unimpeachable authority, as is the deadly effect of the bite of the rattlesnake or the rabid dog, or even of too large a dose of arsenic or strychnia! Though this proof is abundant and accessible, certain persons who take pride in skepticism as an evidence of wisdom will not believe it even though an angel from heaven were to declare it unto them. Argument is wasted upon such men now as in scripture times.

It may appear that the title of this paper should have been more appropriately "the dangers of earth burial," but I may reply that in demonstrating such universal and inevitable dangers, not only at present but for posterity, I have proved the urgent necessity for cremation, for, so far as is yet known, all other proposed or practised methods of disposal of the dead are defective and impracticable, in our country at least. They have little to recommend them anywhere. "Exposure," practised by the Parsees and other tribes of India, the body being left where it can be devoured by wild beasts or torn by birds of prey, seems cruel and barbarous, and is not even desirable in a sanitary view, for I am told by my friend Dr. Peabody, of Worcester, who has lived in Bombay, that the vultures frequently dropped large masses of flesh where they became offensive to the inhabitants. We are hardly ready to erect "towers of silence"

or to suspend our dead upon the limbs of trees to be disposed of in such a manner. The Hindoos expose their dead upon the banks of their sacred river, to be the prey of their river monsters. Burial at sea is only one form of exposure, for marine animals soon devour the corpse.

Embalming, mummifying, or desiccating, as practised by the Egyptians for ages, is disgusting, imperfect and unsatisfactory. Such effort to preserve the body is always only partial, the resulting object being horrible, ghastly and distressing to behold. The sight of such of these ancient relics as I have encountered in the Smithsonian Institution at Washington, in the Museum of the Royal College of Surgeons in London, and elsewhere, is quite enough to disenchant any one who might aspire to have his dead body set up in that odoriferous and obsolete style. Besides the immense numbers that have been destroyed, it is estimated that there are still about ten millions of mummied bodies in Thebes alone. Still worse than the practice of the Pharaohs was the custom of preserving, in religious houses<sup>1</sup>, the bones and parts of bodies of deceased brothers. In the church of St. Ursula, in Cologne, stands the statue of that saint in alabaster, with a dove at the feet. Arranged along the sides of the church are cases containing the bones of her *eleven thousand* martyred virgin attendants! If such ghastly relics, and in such multitudinous numbers, must be preserved, perhaps Cologne is the most appropriate place for them.

Various other methods of rendering the corpse harmless have been proposed. One believes it possible to destroy all living germs in a dead body by injecting the blood-vessels with chemical reagents known to be deadly to these organisms. He suggests one of the soluble salts of mercury as the most deadly of protoplasmic poisons. Another suggests

<sup>1</sup> In the basement of one of the Capuchin monasteries near Palermo are preserved the bodies of more than 2000 defunct brothers. The account contains the rather superfluous statement that the monks of that house were short lived.

covering the uncoffined body in the grave with quick lime to hasten the process of decomposition; but it is difficult to see how this would be any less revolting to the feelings of friends than is cremation by the present scientific and decorous method. The ancient form of cremation or fire burial, the "feüer bestattung" of the ancient Germans, and the funeral pyre of which so much is written in the classics, was disgusting and open to many of the objections now urged against earth burial. The corpse placed upon a pile of wood, the "pyra," gave forth the most nauseating smells, to counteract which expensive gums and essences were consumed with it in extravagant quantities, while with rich flames and hired tears they solemnized their obsequies.

Modern cremation is stripped of all these objectionable features. The body is totally consumed in an hour, or two at most, leaving only a few pounds of harmless residuum, and all without the least odor or offence to the most fastidious sense.

The problem is, given a dead body, sure in a few days to become dangerous to the living, how shall we dispose of it reverently and with absolute safety to survivors, both now and hereafter forever. The answer is by fire, all-purifying fire, the element which when uncontrolled is no doubt the ruthless and destroying enemy of man, but when under control is his servant and friend. Indeed "the ethereal fire has been the most sacred symbol in nearly every varying faith of the world of the visible presence of God." The followers of Zoroaster are not the only worshippers of the Sun. There are "Fire Worshippers" in our day, and their number increases as the sanitary value of fire becomes known. Fire will destroy absolutely every form of disease germ, while no degree of freezing will do so. Pork may be exposed through an arctic winter, then thawed and found to propagate the trichinous disease. Cold does not destroy animalculæ, for they abound in ice water. Heat will utterly destroy the

cryptogamic spore and annihilate the mycelium, but freezing only affords them a temporary rest. All other disinfectants are feeble and ineffectual when compared with the all-purifying fire. Indeed many devastating conflagrations which in cities have been deplored as calamities have really been blessings in disguise as disinfectants and promoters of health. The great fire of London, as is well known, terminated the plague and purified that pestilential city. The ancient rabbis tell us that in times of pestilence, fires were kept burning in the valley of Tophet to consume the dead and to disinfect the air.

Scientific apparatus has now been devised capable of reducing a human body to ashes safely, quickly, and not unpleasantly. There is offered to the people a custom which will forever annihilate the dangers set forth in this essay, the contamination of earth, air and water, the liability to burial alive, the sacrilegious work of grave robbers, and much of the unnecessary expense of funerals.

Reason everywhere approves the reform, and sentiment alone opposes it. Sentiment is always to be regarded when the safety of the people is not jeopardized thereby. Otherwise it is our duty to strive to substitute for exuberance of sentiment, persuasive reason.

Let us then boldly advocate this reform, for whatever opposition we meet to-day, there can be no doubt of the favorable verdict of posterity upon our action.

That cremation has won its way so slowly until within the past ten years, only proves again how slow and difficult it ever is to stem the tide of popular prejudice and institute measures of any sanitary reform. Recently, however, the recognition of its merits has imparted to its advocacy a new impetus in all civilized countries, and while I would not mistake the crowing of the cock for the rising of the sun, I may predict that this greatest of sanitary reforms is destined to prevail in the near future.



Every reform in established customs, however reasonable and necessary, has been gradual, but if no pioneer had with pachydermatous perseverance resisted opposition, and, subjecting himself to criticism, pressed forward, the times would never have been ripe for *any* reform.

Undeniably a stupendous evil exists, which, by its hold on sentiment and firmly established custom, opposes the rapid spread of cremation; but rapidity is hardly expected, and perhaps in so delicate and serious a matter, not desirable.

The crowd of courtiers around the Palace of the Tuileries, when Louis XV. lay dying of a loathsome disease, cried prematurely: "The king is dead—long live the king." Decorum required that they await the extinction of life in the dangerous king before greeting the new one with acclaim. Not so with us. The dangerous, though cherished, custom may, nay must for the present, continue, and our hope of success is in planting the new by its side, and convincing the people by contrast that the dangers of the old custom, like the malady of Louis, are ineradicable, contagious and fatal, while the beneficent and humane results of the new may only be perfectly appreciated by a grateful and more healthy posterity.

A Fellow of this Society contributed to the Report of our State Board of Health, for the year 1875, an able paper upon "Cremation and Burial." He arrived at the conclusion that incineration of the dead was not then a sanitary necessity. This opinion was based largely upon the negative testimony of a large number of physicians in this State, who had not probably given much attention to the subject. A decade of sanitary investigation having passed, the dangers of interment having become more evident, and the scientific process of cremation having become perfected, I doubt if he would now arrive at the same conclusion after a similar amount of research.

The only objection to cremation, founded in reason and not sentiment, is, that the practice might destroy evidence of crime. Lack of time forbids me to answer this objection *in extenso*. I may say, however, that Lucretia Borgias are extremely rare in our day, and that even if cases of criminal poisoning and other crimes against life and health were far more common than they now are, instances of disease and death, due to the evil effects of inhumation, are believed to outnumber, by far, cases of undetected crime which could possibly be due to the adoption of incineration; and, on the principle of the greatest good to the greatest number even, the proposed reform would still be justified.

Though the sanitary is the chief argument in favor of cremation, there are other important reasons for its adoption. The genus "Jerry Cruncher" is not extinct. Remember that the remains of your dearest friend are never secure from the unholy rapacity of the grave robber. It seems almost a pity to disturb the illusive dream that cemeteries are sleeping places of the dead, as the name implies, yet it is a pathetic fact that neither the body of the pauper, buried without a tear, that of the millionaire committed to the vault with more than royal magnificence, nor even that of a martyred president, placed in the tomb protected by bolts and bars, is safe from the sacrilegious hand of the resurrectionist. "Body snatching" is shockingly common.

Again the danger of *burial alive* is not wholly chimerical. A work recently published in Italy reports sixty-five authenticated cases of burial of persons afterwards discovered to have been alive at the time. In this country we often read of persons being resuscitated from what appeared to be the sleep of death. Cremation being the practice, this inexpressibly horrible calamity would be impossible, and if by any accident a body not already dead were to be placed in the crematory furnace, death would be instantaneous and painless.

Again, should cremation become general, the *expense* of the proper and decent disposal of our dead could be greatly reduced. True, the poor as well as the rich could still, if so disposed, waste their means, or those of their friends, on splendid coffins richly palled, stately hearses adorned with gaudy plumes, gaily caparisoned horses, and all the superfluous paraphernalia of worldly woe, for

"The world hath bubbles, as the water has,  
And these are of them";

but these trappings are not necessary, and when our work on earth is done, we need not cause our friends, overwhelmed perchance by grief, to be also weighed down by debt in order to dispose of our mortal remains respectably. A showy funeral is a hollow mockery, a relic of barbarism. Pride and ostentation in the presence of the great destroyer, are painfully inappropriate. Simplicity, quiet, and decorum should here prevail. Instead we see extravagance, a noisy brass band, feathers, and plumes. With cremation a part at least of this Vanity Fair could be abolished. A strange and holy mystery is death, and Christian people should be able to devise more modest methods of disposal for its silent victims.

However unpleasant the choice of evils, no sanitarian can hesitate between Ustrina and Golgotha. "The place of a burning" or "the place of a skull" is, so far as is yet demonstrated, the inevitable alternative.

"Instead, therefore, of thrusting our loved ones who have departed this life into the gloomy grave, there to fester in loathsome putrefaction, and thence to come forth in ghastly forms of dreaded disease, let us reverently, decorously, and expeditiously translate them by means of the all-purifying fire into the elements of all new and beauteous life. So shall our fair land become indeed, as it should be, the land of the living, and not the valley of the shadow of death."

## APPENDIX.

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THE preceding paper, written for and read at the Annual Meeting of the Massachusetts Medical Society, was, in conformity to a rule of the Society, limited to half an hour for its delivery, and hence was confined chiefly to the sanitary side of the question, as appears from its title.

But of great importance in considering the subject of Cremation is the objection often raised that its general adoption would render the detection of criminal poisoning difficult.

The practicability of reducing the unnecessary expensiveness of the present method of sepulture is also a question of great interest.

The actual process of incineration as performed in modern times, in contrast with the barbarous method of the ancients, deserves, too, more notice than the limited time at my disposal for the address permitted.

These subjects are therefore thought worthy of further discussion in the following Appendix.

The Massachusetts Law regarding Cremation will also be of interest and is therefore inserted.

J. O. M.

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### THE ANCIENT PYRE AND THE MODERN INCINERATOR.

Literature, both ancient and modern, abounds in interesting references to the various forms of disposal of the dead.

The last two books of the *Iliad* contain elaborate and poetic descriptions of the rites and ceremonies performed over their heroes by the Greeks in Homer's time. The account is also closely imitated by Virgil in the fifth book of the *Aeneid*. Their feastings, games and sacrificings of animals and of twelve captive Trojans on the pyre, their libations to the winds which rise to fan the flames, their gathering of the ashes, sprinkling them with wine and placing them in a golden urn, were all actual customs common with the ancients,

and to any one interested in modern cremation are read or reviewed with interest.

Bulwer in his "Last days of Pompeii" devotes a chapter to what he calls a "Classic Funeral." His account is extremely beautiful, and the sentiment and romance interwoven are worthy of a more cheerful subject. All other rites being done, says he, they lingered near, and the attendants weeping woke the parting strain, the

#### SALVE ETERNUM.

Farewell! O soul departed!  
 Farewell! O sacred urn!  
 Bereaved and broken hearted,  
 To earth the mourners turn!  
 To the dim and dreary shore,  
 Thou art gone our steps before!  
 But thither the swift hours lead us,  
 And thou dost but a while precede us!  
 Salve! Salve!  
 Loved urn and thou solemn cell,  
 Mute ashes! Farewell! Farewell!  
 Salve! Salve!

Could some modern pen depict the quiet and decorous process of modern cremation with equal poetic felicity, the paper would form a valuable document for winning converts to a custom surely though perhaps tardily to become general among us. If the ancient funeral pyre with its smoke, disgusting odors, wailings, incantations and human sacrifices can be held up to admiration in such attractive dress, what an interesting subject for his fascinating description could have been found in the modern ceremony as performed in Italy or at Dresden!

Many of my readers are no doubt familiar with the exceedingly thrilling account by Jules Verne in "Around the world in Eighty Days," relating to the cremation of the Rajah of Bundelcund, and how the extremely beautiful young girl, his wife, or one of them, who had been intoxicated by the fumes of hemp and opium, and was to be burned upon the pyre with the corpse of her superannuated lord, was so gallantly rescued from her fiery fate by Phileas Fogg! This feature of certain eastern funerals, called the "Suttee," the burning of the wife alive, willing or unwilling, with the body of the dead prince, was not by any means altogether a fiction of the extravagant Verne, for such a barbarous custom exists to this day in northern provinces of India, where, it is said, English authority is still powerless to suppress it.

Ours is an age of scientific research, one in which reason controls, more than tradition and sentiment; hence the incin-



eration of recent times appeals to common sense and utility rather than to absurd and superfluous sentimentalism.

A description of the process contrasts modestly with that of the ancients.

The late Prof. S. D. Gross, of Philadelphia, writing of modern incineration but a short time before his death, said: "Cremation is indeed a beautiful and reasonable method of disposing of our dead. It does not consist, as many suppose, and as was done on the funeral pyre of the ancients, of burning the body in the flames. Neither fire nor flame ever comes in contact with it. It is a reduction of the corpse to ashes by dry heat, sometimes reaching as high as 2000° Fahrenheit. All the smoke and volatile substances resulting from combustion pass through a heated absorbing retort and are immediately destroyed absolutely. The body is borne into the chapel and placed upon a catafalque which stands in front of the altar. The section of floor upon which it rests constitutes the floor of a lift or elevator. As the funeral service proceeds this elevator noiselessly descends, bearing the body to the basement in front of the incinerator. The door is opened and the corpse, wrapped in a sheet which has been saturated in a solution of alum or asbestos, passes over the rollers and is received into a bath of rosy light. The process may be called the etherealization or spiritualization of the human body. A few pounds of pure white ashes remain to be received into an urn of terra cotta, alabaster, or marble, and disposed of by friends as they choose. The process produces no perceptible sound or odor, and presents absolutely nothing to offend the susceptibilities of the most fastidious."

Such is, in brief, the process as described by the lamented Gross, a man "as good as he was great, and who made the most tender humanity the handmaiden of the highest surgical skill, and who desired, by his example, to teach in death what he had advocated in life, and what seemed to his refined sensibility the mode of disposal of the dead least calculated to shock the feelings of the living."

His mortal remains at his request received, a few months later, just this treatment from tender, loving relatives, and who shall criticise his wisdom or their affectionate devotion? The ashes were placed in an urn of modest design but of enduring material, and deposited in the family lot beside the remains of his wife.

His memory will deservedly outlive that of many a Greek or Roman whose funeral pyre "a hundred feet on either side" was decorated with human victims, and whose ashes were sprinkled with the richest wine!

## CREMATION AND EXTRAVAGANT FUNERALS.

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"When beggars die there are no comets seen;  
The heavens themselves blaze forth the death of princes."

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Whatever remarkable phenomena distinguished the death of prince or beggar in Shakspeare's time, whether in his mind's eye, or in the firmament above, the display on earth, in our day, over the dead, rich or poor, is alike extravagant. There are "comets" of prodigality at the funerals of the poor, as well as blazing ostentation at the obsequies of the wealthy.

Against this crying evil (lavish wastefulness in funerals), whatever of force or persuasion this communication may carry with it, is directed, as a phillipic. It will also appear that under the practice of cremation a large part of the crushing burden of absurdly expensive funerals could be lifted from the poor, a merciful relief and benefit certainly much to be desired.

The question of economy in the decent and decorous disposal of the dead may possibly seem harsh and unfeeling to the wealthy, and even to the poor, who have an equal sense of reverence for the mortal remains of poor humanity. Yet it requires no keen observation to see that funerals as at present conducted are in a majority of cases with the poor, and even moderately well-to-do classes, a burdensome extravagance. According to the present fashion (for there is fashion even in funerals) "it costs more to die than to live," as I have more than once heard poor people complain. Careful statistics show that the sums annually expended for funerals in this country exceed all the product of our gold and silver mines, and, by actual computation, they exceed the amount of all the failures of the business houses of the country. I doubt not, for a majority of funerals cost vastly more than a proper respect for the dead would require. We constantly see families impoverished by the excessive expense of interments incurred through false pride, and extravagant burial given to persons who in life lacked the necessities of life, not to mention comforts or luxuries, and whose families suffer in consequence. The cost of cremation, when the custom becomes common, the incinerator being in constant daily use, as it would need to be in a city no larger than Worcester, the ashes being deposited in a cemetery lot if desired, is estimated at not more than one-half the present expense. A lot of a size sufficient for an ordinary family under the present custom of burial, with a central monument for inscriptions, would be ample for many generations of urn burial.

True, the tendency at present among the wealthy is toward less ostentation, while the poor strive perhaps even more than formerly to bury their dead with pomp and circumstance. It is pitiful to witness this painful effort to impart a posthumous consequence to the poor dead man, often at the expense of curtailing the amount of bread for his children. I have often seen with less of disgust than sadness this very abuse, robbery of children and their widowed mother in order to honor (?) the mortal remains of the husband and father. Indeed such is the rule rather than the exception with the poor. While the folly of funeral extravagance is not confined to this class, its ill consequences are more obvious, and so more frequently the object of animadversion.

One of the prominent objects of the society at Lancaster, Penn., is the restriction of prodigal expense at funerals. Indeed its name is "The Lancaster Cremation and Funeral Reform Society."

It has always seemed to me a hollow mockery, as I have looked upon the black plumed hearse with glass sides, the better to show off the expensive rosewood coffin within, with its silver mounted handles and elaborate trimmings, slowly drawn through our main streets, as if its silent tenant were making his last exhibition before being "in his narrow cell forever laid." It *is* a hollow mockery! We may learn wisdom from Japan in more respects than one, and especially in affording to our people the opportunity for option in the choice of a method of disposal of the dead.

In Dr. Hammond's recent novel entitled "Dr. Grattan," that astute and observing man expresses my idea of many funerals.

"Nothing appeals to the rustic mind," says he, "with a force approaching that which attends a funeral. A birth is nothing, a marriage excites only a moderate interest, but a funeral rouses the whole neighborhood to a state of excitement, and men, women and children stop their work and their play, and, attiring themselves in their best clothes, prepare, under the self-deception that they are honoring the dead, to enjoy the occasion. Humanity loves morbidity."

We are told by Tacitus that Agrippina, the widow of Germanicus, the father of Nero, after exhibiting his ashes in the forum at Antioch, carried them in her bosom to Rome. The simplicity of even such a disposal of the dead seems almost worthy of imitation in view of many exhibitions of gaudy extravagance to be witnessed in our day.

In striking contrast with the wifely devotion above referred to was the insane conduct of Artemisia of Caria, who, after

having drunk in water the ashes of her husband. King Mausolus, erected at Halicarnassus a sepulchre so magnificent that to this day "mausoleum" is the synonym for an extravagant tomb.

Our lady friends would, no doubt, prefer to imitate Agrippina rather than Artemisia!

In very thickly populated countries, in many instances, the dead are already crowding out the living! In London, for instance, 85,000 persons die annually. An estimate of 3030 graves to each acre, requires for space for these annually twenty-two and a half acres! This estimate leaves no space for avenues, paths or trees. Few are aware, or never think, of the immense or unnecessary cost of extravagant cemeteries and funerals under the present custom. Would you, then, I am asked, deprive the stricken and mourning relatives of the cherished privilege of paying the last tender ceremonies of love and affection to the lost one on account of the expense? By no means! We, in this community, would be the last to pluck one single laurel from the chaplet of the deserving, living or dead; but it is contended and can be easily proved that equally pious and reverent honors can be paid to them by the practice of cremation as by the present custom, and with no danger to and far less impoverishment of the living. Greenwood Cemetery, in Brooklyn, N. Y., one of the largest in this country, contains four hundred acres, with at least a quarter of a million interments, a veritable "city of the dead." The ashes being placed in urns after cremation, this cemetery alone would afford space for twenty millions of them, and would not require enlarging for generations to come.

The poorest people, with pious veneration for their dead, often incur painful privations in order to purchase lots in cemeteries for them. If it is true that one-half of the unnecessary outlay could be avoided by the custom of urn burial, is it not worth while, even in the humanitarian, not to mention the sanitary view?

At first there may be something repellant about the business-like, mechanical nature of the scientific cremation furnace as applied to the remains of those we have loved, but did you ever hear the frozen clods of winter fall upon the coffin of a friend, while in chilly rain or blinding storm the weeping sad procession turned to leave the snow-bound cemetery? If so, it haunts your memory still. Grief, like fear and all human passions, is depressing to the system in a marked degree, and every observant physician knows full well the dangerous and often fatal "colds" contracted by the mourning, grief-stricken relatives, especially delicate ladies,



on such occasions of depression and sorrow, while the system of the heart-broken widow or daughter was thus susceptible to the chilly atmosphere.

It is pleasant and all very well to contemplate and to speak of the daisied turf, the grassy mound, the dew-dropping willow, the flower-strewn graves, and the sighing of the breezes through the waving branches of the trees, which almost seem "like fond weeping mourners" to "lean over the grave." This is all very poetic and sentimental, but after all "no flower-decked surface can hide from our thought the ghastly reality beneath," no gentle breeze soothes our ears but to remind us that the howling of the blast must follow, and no pleasant morning sunshine cheers the eye while we wander through the solemn cemetery in our sad devotion at the shrine of the dear dead, but to be followed by the dreary darkness of the lonely night. The poet Gray in elegiac mood composed his most tender and pathetic strains in a country churchyard, bringing a sense of relief and pleasure to the saddest heart, yet pure air and unpolluted water are more necessary to us all than even the inspiring charms of his *Elegy*.

Too much sentiment and too little reason and judgment environ the whole question of the disposal of the dead. When we "commit our brother to the deep," in the language of the service of "burial at sea," the body is almost immediately devoured by marine animals; when we commit him to the earth, whence he came, his body is as surely, though more tardily, and to the living more dangerously, the prey of worms, yet many are horrified at the idea of the cleanly, safe and rapid process by the all-purifying fire.

Emerson said truly, "The plowman, plow and furrow are of one stuff—clay." The spiritual, the immortal part having left its tenement, this ought to be disposed of with less demonstrative and burdensome ceremonies, though not with less respect and tenderness.

It has been suggested that undertakers would be hostile to cremation, anticipating that their occupation would be gone, but no such result would follow. Funerals would be far less elaborate, let us hope, but not dispensed with; besides, just such competent and energetic men as our Worcester undertakers would be required to superintend and execute the duties required at the crematory temples. Fewer undertakers would be needed, perhaps, but these would, alas! have enough to do. With the misapprehension above referred to, it must be confessed that when cremation was first proposed in London, the undertakers of that city asked of Sir Henry Thompson,



"How shall we earn our living if you urn our dead?" But that gentleman was never at a loss for an answer in any dilemma, and won their approval of his scheme.

I am not unmindful of the fact that the subject of this paper covers very sensitive ground, and that its writer may be criticised, yet all efforts to hit the bull's eye of a popular evil by casting the first stone provoke antagonism and often an unfriendly interpretation of motives, however disinterested they may have been.

It is the farthest possible from my intention to ridicule the absurd display, the tinsel show, the fifty carriages, and the "fine funeral which he had." The subject is too grave and solemn, but the custom entails *suffering*, and even with the wealthy is superfluous, misleading to the instincts of those less able, and *does nobody any good*.

The funeral car of the late A. T. Stewart was followed by six carriages laden with gorgeous floral offerings, yet in spite of the more than regal magnificence of his funeral, and of his countless wealth, only a few days later his body was stolen by sacrilegious robbers, and has never been recovered. Cremation being the custom, such impious indignities could never occur.

Let us, then, have a simple, decorous funeral service, let the body be cremated, let "ashes to ashes, dust to dust," be interpreted literally, sensibly and safely, let the ashes be tenderly deposited in an urn

"Beneath those rugged elms, that yew tree's shade,  
Where heaves the turf in many a mouldering heap,"

if so desired, but better still, in the columbaria of crematory temples, and then, if we have done any good in the world, our friends will remember us—in their hearts—for "Our works are greater than we."

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## CREMATION AND EVIDENCE OF CRIME.

Various arguments for cremation and objections to it having been considered, it remains to deal with another, and the only tangible objection, aside from sentiment and custom. It has been said that this practice might destroy the evidence of crimes, such as poisoning, malpractice by irresponsible physicians, and so forth. This is in fact the one and only real

lion in the way of the progress of cremation as a substitute for inhumation. Let us see how it is to be met, and overcome, for, unless we can muzzle this lion, he may frighten away the pilgrims. First, it must be admitted that cases of criminal poisoning such as would be detected by an exhumation and examination of a buried body are very rare. In a vast majority of cases the cause of death is perfectly evident to any intelligent physician. No doubt obscures the case. The list of causes of death, perfectly evident even to the friends and non-medical persons, embraces probably, at the least, 9-10 of the whole mortality. Doubtful cases have generally been visited by more than one skilful physician. The fraction in which crime of any sort might have been perpetrated becomes thus very small. Moreover, in the present state of chemical analysis and of expert medical testimony, the advantages of the posthumous examination of a body, with a view to the detection of crime, often accrue less to justice than to the lawyer for the defence.

The late affectionately remembered and sincerely lamented Prof. Thompson, whose mortal remains now repose in the tomb in Rural cemetery because no facilities were convenient for its reduction to ashes, according to his belief, stated in a letter published in the *Spy* of January 19 last: "As to the difficulty about post-mortem evidences of criminal poisoning, it has been evident in recent times that such evidence, however obtained, has not had much weight with juries," since they are aware of the liability to inaccuracies and uncertainties. Prof. Thompson was one of the best experts in chemistry in this country, and had much experience in such cases. His opinion on this point is, therefore, valuable. Since the custom arose of injecting the so-called embalming fluid into the corpse by undertakers, as a temporary preservative, any subsequent analysis for suspected poison has been a farce, it being well known that such fluids contain poisonous ingredients. This embalming is now very generally done, and entirely without restraint of law.

The Cremation Society of England, aware that the objection here considered is the chief and only practical one, have issued a circular, in which the following are the conditions upon which alone the use of the crematory will be permitted by the council:

"1. An application in writing must be made by the friends or executors of the deceased. 2. A certificate must be sent in by one qualified medical man at least who attended the deceased until the time of death, and one also by a second medical practitioner, both unhesitatingly stating that the cause

of death was natural, and what that cause was. These conditions being complied with, the council of the society reserve the right in all cases of refusing permission for the performance of cremation, and, in the event of permitting it, will offer every facility for its accomplishment in the best manner."

The society at Lancaster, Penn., in its circular, states that "all applicants for cremation must present a certificate of the cause of death, signed by the physician attending during the last illness, whose standing as a reputable practitioner must be attested by a notary public. In lieu of this the certificate of the health officer of cities or towns in legal form will be accepted." The legal requirements as security against this danger are very strict in Italy, as is learned from a document forwarded by our minister at Rome to our state department. In fact, wherever cremation of the dead has been practised, the most stringent precautions have been taken to provide for the detection of crime.

Even with the ancients the question of poisoning or other suspicious cause of death was probably investigated before commitment to the funeral pyre, for we are told by Tacitus<sup>1</sup> that the body of Germanicus was exhibited in the Forum of Antioch, the place fixed for sepulchral rites, but that "whether it bore the marks of poisoning yet remained undecided, for the people were divided according as they pitied Germanicus and so presumed the guilt of Piso, or were prejudiced in favor of the latter."

Sir Henry Thompson, England's great surgeon and sanitarian, in the most complete and convincing essay in advocacy of incineration of dead bodies, ever written in any language, thus disposes of this question: "It has been asked, and most naturally, what guarantee is there against poisoning if the remains are burned and it is no longer possible, as after burial, to re-produce the body for examination." It is a sufficient reply that regarding "the greatest good for the greatest number," the amount of evil, in the shape of disease and death, which results from the present system of burial in the earth, is infinitely larger than the evil caused by secret poisoning is or could be, even if the practice of that crime were considerably greater than it is. Further, the appointment of officers to examine and certify in all cases of death would be an additional safeguard, and a very efficient one. Such officers exist in the large cities of France and Germany. In Paris no burial can take place without the written permission of the "*Médecin Verificateur*," and, whether we adopt cremation

<sup>1</sup> Annals, Bk. II. ch. 73.

or not, such an officer might well be appointed here. The regulations relative to certificates of death are very strict in all the continental cities.

"Verification of death and the cause of it, in case cremation were the practice, would naturally be more strict and circumstantial than at present, and thus the protection against poisoning and other secret crimes would be greater rather than less than now."

Sir Henry Thompson goes on to say that "it would be possible at a much less cost than is at present incurred for burial, to preserve in a jar, in every case of suspicious death, the stomach and a portion of some other organ, say for fifteen or twenty years, so that in the event of a trial coming on later, greater facility for examination would exist than by the present disgusting method of exhumation. Nothing could be more certain to check the designs of the poisoner than the knowledge that proofs of his crime, instead of being buried in the earth (whence, as a fact, not one in a hundred thousand is ever disinterred for examination), are safely preserved in a public office, to be produced against him at any moment. As a matter of fact, such preservation of parts of bodies would not be at all necessary in one case of five hundred deaths."

Crematory temples should be, and some of them are, provided with frigidaria, so called, where bodies can be preserved on ice for a week or month if necessary, to await the arrival of distant friends, or for other reasons. These vaults could be utilized to detain bodies, when poisoning, criminal manipulations by the abortion fiend, or other unlawful causes of death, were suspected, and thus the ends of justice better secured.

The modern process of embalming by undertakers, practised without restraint of law, injects so much poison, arsenious and other, into the body that any earlier poisoning could not be distinguished with any certainty, from that effected by the embalming injection.

Certainly the good of the community should ever stand paramount to that of the individual, and many an innocent man has been convicted of poisoning on the inaccurate and uncertain evidence of experts whose testimony by no means agreed. There is no zeal blinder than that inspired by love of vengeance upon supposed offenders, and with all precautions, justice will often miscarry.

It will thus appear that, incineration of the dead being the practice, crime should be in the majority of cases more sure of detection than under the present system.





## THE MASSACHUSETTS LAW REGARDING CREMATION.

AN ACT authorizing the formation of Corporations for the purpose of Cremating the Bodies of the Dead.

*Be it enacted, etc., as follows:*

SECT. 1. Any five or more persons may associate themselves together in the manner prescribed by chapter one hundred and six of the Public Statutes, *with a capital of not less than six thousand, or more than fifty thousand dollars*, for the purpose of providing the necessary appliances and facilities for the proper disposal by incineration of the bodies of the dead; and corporations so established shall have the same powers and privileges and be subject to the same duties, liabilities and restrictions as other corporations established under said chapter, except as hereinafter provided. The *par value of shares* in the capital stock of corporations organized under the provisions of this act shall be *either ten or fifty dollars*.

SECT. 2. Every such corporation may acquire by gift, devise or purchase, and hold in fee simple so much real estate not exceeding in value fifty thousand dollars, as may be necessary for carrying out the objects connected with and appropriate to the purposes of said corporation, and situated in such place as the state board of health, lunacy and charity may determine to be suitable for said objects and purposes. No building shall be erected, occupied or used by such corporation until the location and plans thereof, with all details of construction, have been submitted to and approved by said board or some person designated by it to examine them.

SECT. 3. Every such corporation may make by-laws and regulations consistent with law and subject to the approval of said state board, for the reception and cremation of bodies of deceased persons, and for the disposition of the ashes remaining therefrom, and shall carry on all its business in accordance with such regulations as said board shall from time to time establish and furnish in writing to the clerk of the corporation, and for each violation of said regulations it shall forfeit not less than twenty nor more than five hundred dollars.

SECT. 4. No body of a deceased person shall be cremated within forty-eight hours after decease, unless death was occasioned by contagious or infectious disease; and no body shall be received or cremated by said corporation until its officers have received the certificate or burial permit required

by law before burial, together with a certificate from the medical examiner of the district within which the death occurred, that he has viewed the body and made personal inquiry into the cause and manner of death, and is of opinion that no further examination nor judicial inquiry concerning the same is necessary. For such view, inquiry and certificate he shall receive the fees prescribed by section nine of chapter twenty-six of the Public Statutes for a view without an autopsy by examiners in counties other than Suffolk County. Medical examiners within their respective districts shall make such view and inquiry upon application therefor and payment or tender of said fees.

SECT. 5. This act shall take effect upon its passage.

*Approved May 26, 1885.*









"O FOR THE WISE CUSTOM OF THE ANCIENTS, TO DISSOLVE  
THE PERFECT, THE SUBLIME DIGNITY OF HUMAN FORM  
WHICH NATURE EARNESTLY AND SLOWLY BUILT,  
AFTER THE SPIRIT, THE EFFICIENT, HAS BEEN SEVERED,  
BY THE ACTION OF PUREST FLAME.

O TREASURE UP IN A MOST PRECIOUS URN  
THE DULL REMAINS OF ASHES AND OF BONES,  
THAT THESE ARMS, IN VAIN EXTENDED,  
MAY HOLD BUT SOMETHING, THAT UNTO THIS HEART,  
WHICH ANXIOUSLY IS YEARNING INTO EMPTY SPACE,  
I STILL MAY PRESS WHAT IS ITS MELANCHOLY OWN."

*Translated from Goethe's "Natural Child," Act III., Scene 4.*



CINERARY URN  
IN  
BARLOW COLLECTION.  
(Black and white Jasper.)